**1.Given an entity named Television, identify its attributes and explain how will you do Abstraction?**

Ans: If the Television would be the entity,then the attribute will be,

1.CRT

2. Audio system

3.DMDs(Digital micro mirror devices)

4.VCRs

5.Laser disc players

6.Screen

7.Sensors

8.Memories

9.PCB etc.

Abstraction is the process of hiding internal data and implementations from the outer world. Like this the user only knows how to operate the television like brightness control,audio control,channel change etc.All of these can be done by the user by using remote.So the user does not aware of how the inner parts implemented.

**2.Given an entity named Hospital, explain Encapsulation with respect to it.**

Ans:If the Hospital is entity,attributes will be

1.Doctor

2.Patient

3.ICU

4.OT etc.

Encapsulation refers to integrating variables and methods into a single unit.In encapsulation class variables are hidden from other classes and can only be accessed by the methods of the class in which they are found.

For exa:When a patient goes for check up or if he has any health issue,he goes to the particular doctor may be the dermatologist or gynecologist or cardiologist etc.So he is examined by only one doctor or the only doctor is assigned for the patient.He does not need to go to other doctors.Like this during the operation ,the OT is allotted to the only patient and the doctors who involve in the operations,not to others.And in the case of ICU ,it is also allotted to the particular person.Others are not able to access the ICU.

**3.Given an entity named TrafficSignal, explain Polymorphism with respect to it.**

Ans: Polymorphism is the concept of OOPs. Polymorphism allows a client to treat different objects in the same way even if they were created from different classes and exhibit different behaviors.

EX:Traffic Signal-Whenever red signal is glow, all vehicles should stop.

Green light is the sign that the vehicles can go.

Yellow light is the sign that the vehicles must slow down and stop before the light turns red.

All vehicles of barking system but there implementation is different but purpose is Same.

**4.Given an entity named BroadBandConnection, explain inheritance with respect to it.**

Ans: Inheritance in java is a mechanism in which one object acquires all the properties and behaviors of a parent object.The idea behind inheritance that you can create new classes that are built upon existing classes.When you inherit from an existing class,you can reuse methods and fields of the parent class.Moreover,you can add new methods and fields in your current class also.

Ex: If we consider Broadband connection as an example,it’s types would be

1.DSL

.ADSL

.SDSL

2.Cable modem

3.Fiber

4.Wireless

5.Satellite

6.Broadband over powerlines(BPL)

All types of broadband connection has the same propery and they have the additional properties according to their types.Like as ADSL and SDSL comes under the DSL it has the properties of SDL and along with both of these having their own properties.

**5.Given an entity named MobilePhone, identify its static & dynamic attributes.**

Ans: In MobliePhone , Static applications are not reliant on connection to an online server or database.Apps built in this way are downloaded once,usually periodically updated,and are able to function offline only with the device on which they are installed.

1.Calculator

2.Camera

3.Dictionary app

4.Calender

5.Contact app etc.

Dynamic applications are in some way reliant on an online server or database.When connected,these apps are loaded from a central server so that any iterative changes to development,design or functionality are rolled out across all devices simultaneously.

1.Some Games

2.Youtube

3.Chrome

4.Learning apps and Shopping apps etc.